

WHAT IS CLAIMED IS:

1. A method for treating food to clean and reduce the level of microorganisms on the surface of said food, said method occurring just prior to consumption, characterized in that said method comprises the step of contacting the surface of said food with a aqueous dilute treatment composition comprising toxicologically-acceptable anionic and/or nonionic detergent surfactant; total electrolyte to provide at least about 0.04 molarity of cations, and toxicologically-acceptable basic buffer to provide a pH of greater than about 8.5, said composition being able to significantly reduce the level of microorganisms less than one minute, the composition being essentially free of any material that adversely affects safety or palatability, so that said food does not need to be rinsed before consumption.

2. The method of Claim 1 wherein said aqueous dilute treatment composition comprises:

- (a) greater than about 0.015% by weight of toxicologically-acceptable base-stable anionic detergent surfactant;
- (b) toxicologically-acceptable basic buffer selected from the group consisting of water soluble borates, hydroxides, ortho-phosphates, carbonates, and/or bicarbonates, to provide a pH of from about 8.5 to about 13
- (c) sufficient electrolyte to provide at least about 0.04 molarity of cations without considering any surfactant cations;
- (d) optionally, from about 0.0005% to about 3% by weight of calcium ion sequestrant selected from the group consisting of water soluble salts of polyphosphates, organic polycarboxylic acid, and mixtures thereof;
- (e) optionally, toxicologically-acceptable preservative;
- (f) optionally, toxicologically acceptable suds suppresser;
- (g) the balance comprising an aqueous carrier selected from water and, optionally, containing a low level of low molecular weight, toxicologically-acceptable organic solvent.

3. The method of Claim 2 wherein said aqueous treatment composition comprises:

- (a) less than about 5% by weight and a sufficient amount to maintain the viscosity of said solution to less than about 50 cp., of toxicologically-acceptable base-stable anionic detergent surfactant;
- (b) toxicologically-acceptable basic buffer selected from the group consisting of water soluble potassium and/or sodium hydroxides, ortho-phosphates, and/or carbonates, to provide a pH of from about 10.0 to about 12.5;
- (c) sufficient electrolyte to provide at least about 0.08 molarity of cations and
- (d) optionally, from about 0.001% to about 2% by weight said calcium ion sequestrant, which is selected from the group consisting of sodium and/or potassium tripolyphosphate, ethylenediaminetetraacetate, citrate, and mixtures thereof

4. The method of Claim 2 wherein said aqueous treatment composition comprises:

- (a) less than about 2% by weight and sufficient to maintain the viscosity of said solution to less than about 10 cp., of toxicologically-acceptable base-stable sodium and/or potassium alkyl sulfate and/or sulfonate and/or C₈-14 soap;
- (b) toxicologically-acceptable basic buffer selected from the group consisting of water soluble potassium and/or sodium hydroxides and/or ortho-phosphates and/or carbonates, to provide a pH of from about 10.5 to about 12.3;
- (c) sufficient electrolyte to provide at least about 0.12 molarity of cations and
- (d) optionally, from about 0.01% to about 1% by weight of salt of organic polycarboxylic acid.

5. The method of Claim 1 wherein said aqueous treatment composition comprises:

- (a) less than about 1% by weight and sufficient to maintain the viscosity of said solution to less than about 5 cp., of toxicologically-acceptable base-stable sodium and/or potassium C₆-16 alkyl sulfate and/or C₈-14 soap; and
- (c) sufficient electrolyte to provide at least about 0.04 molarity of cations.

6. The method of Claim 2 wherein said aqueous treatment composition comprises:

- (a) less than about 1% by weight and sufficient to maintain the viscosity of said solution to less than about 5 cp., of toxicologically-acceptable base-stable sodium and/or potassium alkyl sulfate and/or C₈₋₁₄ soap; and
- (c) optionally, from about 0.003% to about 1% by weight of sodium tripolyphosphate and/or sodium ethylenediaminetetraacetate.

7. The method of Claim 1 wherein said treatment composition is made by diluting a concentrated composition with water that may contain microorganisms, the concentrate being used at a level of from about 0.1% to about 5% by weight of the dilute aqueous treatment composition.

8. An aqueous dilute treatment composition characterized in that said composition comprises:

- (a) greater than about 0.015% by weight of toxicologically-acceptable base-stable nonionic and/or anionic detergent surfactant;
- (b) toxicologically-acceptable basic buffer selected from the group consisting of water soluble borates, hydroxides, ortho-phosphates, carbonates, and/or bicarbonates, to provide a pH of from about 8.5 to about 13;
- (c) sufficient electrolyte to provide at least about 0.04 molarity of cations;
- (d) optionally, from about 0.0005% to about 3% by weight of calcium ion chelant selected from the group consisting of sodium and/or potassium polyphosphate and/or organic polycarboxylate;
- (e) optionally, toxicologically-acceptable preservative;
- (f) optionally, toxicologically acceptable suds suppresser; and
- (g) the balance comprising an aqueous carrier selected from water and, optionally, containing a low level of low molecular weight, toxicologically-acceptable organic solvent.

9. A composition according to Claim 8 which comprises:

- (a) less than about 5%, preferably less than about 2%, more preferably less than about 1%, by weight and sufficient to maintain the viscosity of said solution

to less than about 50 cp., preferably less than about 10cp., more preferably less than about 5 cp., of toxicologically-acceptable base-stable anionic detergent surfactant;

- (b) toxicologically-acceptable basic buffer selected from the group consisting of water soluble potassium and/or sodium, hydroxides, ortho-phosphates, and/or carbonates, to provide a pH of from about 10.0 to about 12.5, preferably from about 10.5 to about 12.3;
- (c) sufficient electrolyte to provide at least about 0.08 molarity, preferably at least about 0.12 molarity, of cations; and
- (d) optionally, from about 0.001% to about 2% by weight said calcium ion sequestrant.

10. A concentrated composition suitable for use in preparing dilute compositions for treating food at a basic pH above about 8.5, characterized by diluting it with water using from about 0.1% to about 5%, preferably from about 0.5% to about 2%, of the concentrated composition, by weight of the dilute composition, said concentrated composition comprising:

- (a) from about 0.1% to about 50%, preferably from about 0.5% to about 25%, by weight of toxicologically-acceptable detergent surfactant;
- (b) toxicologically-acceptable basic buffer, to provide a pH of from about 8.5 to about 13, preferably from about 10 to about 12.5, more preferably from about 10.5 to about 12.3, in said dilute composition, but with low reserve alkalinity in said dilute composition to avoid damage to a human, the level of orthophosphate, when present, being from about 3% to about 60%, by weight of phosphoric acid equivalent;
- (c) sufficient electrolyte to provide at least about 0.04 molarity, preferably at least about 0.08 molarity, of cations in said dilute composition;
- (d) optionally, toxicologically-acceptable preservative;
- (e) optionally, toxicologically-acceptable suds suppresser; and
- (f) the balance comprising compatible, toxicologically-acceptable inert and/or minor ingredients.

11. A dilute treatment composition prepared by diluting from about 0.5% to about 2% by weight of the composition of Claim 10 with impure water to form a composition which has a viscosity less than about 50 centipoise under shear of greater than about 1000 sec⁻¹.

12. A composition according to any one of Claims 8-11 wherein said composition either:

- (a) comprises only GRAS and/or food grade ingredients;
- (b) contains an effective amount of toxicologically-acceptable suds suppressor; or
- (c) is formed using impure water.

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